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Asymmetric Conflict 2010

Brad Roberts

PREFACE

Since its formation in 1998, the Defense Threat Reduction Agency has contracted with IDA for analytical support, through the agency's Advanced Systems and Concepts Office (ASCO). In fiscal year 2000, the ASCO commissioned studies from IDA on five questions:

1. How will the challenge of asymmetric conflict have evolved over the two-decade period from the wake-up call of the Persian Gulf war to 2010?
2. What are the stability challenges associated with a more multipolar nuclear world?
3. How can the effectiveness of nuclear deterrence be enhanced with an understanding of the strategic personality of states?
4. How might an adversary's use of a contagious disease such as smallpox affect the ability of U.S. forces to sustain the war fight?
5. How would the implementation of the Comprehensive Test Ban Treaty affect foreign nuclear weapons ambitions and programs?

This document provides an answer to the first question. Additional documents reporting on two conferences convened as part of the study process are described in the body of this report, one on China as a potential asymmetric adversary and the other on red-teaming the revolution in military affairs (RMA).

The author is grateful to his colleagues at IDA, Mr. James Kurtz and Dr. Victor Utgoff, for their very effective critiques of earlier versions of this report. He is also grateful to Dr. Tony Fainberg at DTRA for his partnership throughout the year in designing and implementing this project and in helping to define key insights, not least through his review of an earlier draft of this report. The author assumes full responsibility for the final contents of this essay and the arguments presented here.

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SUMMARY

Asymmetric warfare emerged as a major theme in U.S. defense planning with the end of the Cold War, the collapse of the Soviet Union, and the shift in focus from peer adversary wars to major theater wars and smaller scale contingencies. At the same time, there has been rising concern about the proliferation of nuclear, biological, and chemical (NBC) weapons, as well as missile delivery systems, and about their potential utility in asymmetric strategies. These twin factors gave rise to the Defense Counterproliferation Initiative in 1993, which sought to improve the capability of U.S. military force to project and prevail against regional adversaries employing weapons of mass destruction. A decade later, and as the United States begins a Quadrennial Defense Review with a new administration, it is useful to take stock so that mid-course corrections might be made to ensure that desired capabilities are achieved and the challenges of asymmetric warfare fully and competently addressed.

Over the last decade, a good deal of thinking has been devoted to defining the asymmetric challenge. Asymmetric conflicts are understood to involve asymmetries of both capability and interest. On capability, the asymmetry in both conventional and nuclear power is much to the benefit of the United States, with the aggressor's imperative to act in ways that do not motivate Washington to bring to bear its full power potential. On interest, the asymmetry—as the aggressor might perceive it—contrasts his ostensibly vital concern against U.S. interests that by definition are over-the-horizon. Asymmetric strategies are the means by which the militarily-weaker state tries to bring whatever advantages it has to bear on the critical weak points of the stronger party. The perceived weak points of U.S.-led coalitions include, for example, the need to project power over long distances, the need for partners in such regional wars, and casualty aversion.

NBC weapons have come to be seen among U.S. defense planners as potentially very useful to an adversary in the prosecution of asymmetric strategies. Over the last decade, U.S. military analysts have tried to come to a better understanding of how such weapons might actually be used by regional aggressors, an effort that has required the setting aside of Cold War-vintage thinking about both limited wars and nuclear wars. To understand when, where, and how a regional aggressor might use NBC weapons (and choose among them) requires some understanding of why. To answer this question requires some appreciation of the imperatives that will inform the aggressor's risk/benefit calculus at each phase of an asymmetric conflict against a militarily-superior U.S.-led coalition. Those imperatives point to different concepts of operations (CONOPS) at

different phases of the war, depending on whether the aggressor is attacking military or targeting civilian targets and whether it seeks battlefield advantage or political gain.

The Counterproliferation Initiative is a tailored approach aimed at across-the-board improvements in the ability of U.S. forces (and of its coalition partners) to cope with the different modes of attack an aggressor might pursue. A long list of requirements has been identified that the U.S. must meet if it is to project and prevail, despite the presence of in-theater NBC threats. And, over the last decade, the U.S. military has made a good deal of headway in meeting those requirements, with a series of improvements to passive defenses against attack with chemical and/or biological weapons (CBW), active defenses, counterforce attack capabilities, and operational adjustments. Looking ahead to the coming decade, further improvements can be expected, some of them quite significant, as new technologies begin to reach the field.

But does progress equate with success? Answering this question is proving extremely difficult for the defense planning community. A number of factors illuminate why this is the case.

- The threat remains poorly defined. And it is destined to remain poorly defined, given the evolving list of countries of potential military concern to the United States, as well as the nature of some of the most militarily sensitive technologies (e.g., biotechnology, which can be used for both civilian and military purposes).
- America's most likely adversaries are pursuing work-arounds to the counterproliferation capabilities Washington is now bringing into being.
- Over the next decade, the effectiveness of risk and threat reduction strategies, aimed at eliminating WMD programs globally or at least restricting their maturation, cannot be predicted with confidence.
- The RMA promises to reduce some vulnerabilities to WMD attack, but promises also to bring some new vulnerabilities of its own.
- There is no agreement within the U.S. defense community that military planners have focused on the most important facet of the asymmetric challenge with the focus on counterproliferation.

This absence of agreement is fueled by the existence of four different camps within the defense community.

One camp argues that the central asymmetric problem is not the vulnerability of military forces in theater to an adversary's use of WMD, which can be deterred by nuclear means (goes the argument). The central problem is the vulnerability of allied and

U.S. civilians to covertly delivered WMD, especially biological weapons. Think Homeland Defense.

Another camp argues that the central problem is not the vulnerability of military forces, but the political will of the American public to avoid casualties and quagmires. Adversaries do not need to risk WMD attack (goes the argument) in order to extract the strategic behaviors of Washington that they desire. The RMA brings with it new vulnerabilities that the adversary will be able to exploit to his advantage. Think Vietnam redux.

A third camp argues that the central problem is not major theater war against a small power made big by WMD, but a limited war against a major power with a significant nuclear capability. Think China and a U.S.-PRC limited war over Taiwan.

The fourth camp is focused on the canonical problem—major theater war against a WMD-armed regional aggressor, and the so-called lesser-included smaller scale contingencies. Think a replay of the Persian Gulf war or the Korean war, but this time against an aggressor willing and able to exploit robust NBC assets.

There is a natural tendency to ask which camp has it right—especially for the defense planner with limited resources. But the absence of consensus is unavoidable. With the passing of bipolarity, the United States no longer has the luxury of a single potential enemy that it can study for a long period of time and that assembles military capability in large infrastructures. The new threat is far more fluid and imprecise. Washington cannot know precisely the capabilities available to all of its potential adversaries. It cannot judge with confidence the ways in which leaders of aggressor countries might calculate risks and benefits. It cannot anticipate fully the ways in which their innovations might produce unanticipated asymmetric tactics. But nor can it afford to assemble new capabilities without some notion of prospective threats.

This points to the utility of Red-Teaming approaches. Such approaches, however, can only pay useful defense planning dividends if they knit together technical, operational, and political expertise in order to help scope out the tactics and strategies as an adversary might devise them.

Surveying the challenges of fully eliminating vulnerabilities to attack by NBC as well as the apparently growing disagreement among experts about the very nature of the asymmetric challenge, some defense planners ask why it is necessary to further reduce the NBC risks—especially if the United States can fall back on nuclear deterrence for

threats it has miscalculated or cannot manage by conventional means. What is wrong with this inclination?

As a point of departure, it is important to recognize what would be at stake in a regional war in which the United States and its allies face blackmail and perhaps actual attack with weapons of mass destruction. Such a war would be without precedent. If it were to end the “wrong way,” the consequences for the peace that follows could be staggering, not least if it leads states to conclude that weapons of mass destruction are useful for committing and securing acts of aggression—and thus precipitates a sudden broad burst of proliferation. Such a war would also raise fundamental questions about the credibility of the United States as a security guarantor. From this perspective, the strategic value of a viable counterproliferation capability is that it helps to ensure that such wars will not lead to outcomes that badly damage U.S. interests.

But there are other strategic values of note. One is the self assurance that comes in moments of crisis and decision from knowing that everything reasonable has been done to minimize the capability of a regional rogue to inflict high punishment. Another is the reassurance of U.S. allies and partners that the risks they run in signing up with Washington are reasonable. An additional value relates to deterrence. In the absence of counterproliferation capabilities now being pursued, the United States must rely heavily on nuclear weapons to deter an adversary’s use of WMD. This runs contrary to Washington preference for a number of reasons. But two stand out. Such reliance may not be credible. And it may not be necessary, as argued further below.

Aggressors employing weapons of mass destruction in asymmetric strategies run a major risk—the risk of miscalculation. Attacks aimed at generating fear in order to extract a political concession from Washington and its partners may instead generate anger and a decision to exploit the necessary military means to vanquish a hated enemy. A reticent aggressor may be willing to exploit NBC assets on a very limited basis for the purpose of generating concern and debate. A bold aggressor, willing to run higher risks, may be willing to exploit those assets more extensively within and beyond the theater. A bold aggressor armed with large quantities of deliverable and advanced generation CBW, and perhaps nuclear weapons as well, would have a very substantial capability to counter some of the escalatory steps that Washington might consider.

Against this latter category (the bold aggressor with many NBC weapons), it seems unlikely that the capabilities now coming together in the counterproliferation area could ensure an ability to project and prevail on U.S. terms. Damage limitation and

vulnerability reduction strategies cannot guarantee that the United States would be able to sustain military operations or provide full protection of high-value targets. But if the aggressor miscalculates, by killing so many Americans that they are made not fearful but angry and demand the full use of U.S. power, he will have incited a reply that draws on those power assets he hoped to dissuade the United States from exploiting in the first place. Too aggressive a use of asymmetric tactics may result in escalation by the United States and/or a decision to seek regime removal as a condition of war termination. An aggressor's too-bold use of his most destructive weapons in the service of asymmetric strategies could well invert the asymmetry of interest that defined the conflict at the start, as the aggressor's actions create interests for Washington in its long-term leadership role, in its reputation as a reliable guarantor, and in nonproliferation.

Counterproliferation helps to bring into being a deterrence posture better suited than the present one (with its heavy reliance on nuclear retaliation) to the requirements of the post-Cold War era. This posture emphasizes damage limitation and conventional rather than nuclear replies to rogue aggression leading to major theater war. Continued heavy reliance on nuclear deterrence, especially of chemical and biological attacks, is contrary to multiple U.S. interests—except where it is absolutely necessary. It is not necessary for the reticent aggressor with few weapons, who is unlikely to believe that his asymmetric tactics would ever generate the scale of casualties that would warrant a nuclear reply by Washington. A bold aggressor with many and sophisticated weapons will have to contend with the possibility that large-scale casualties would generate a nuclear reply; thus nuclear weapons may be seen as a credible deterrent of those high-end attacks. The strategic value of counterproliferation is thus that it helps to ensure that nuclear threats are credible where they are necessary—to deter large-scale exploitation of NBC weapons to gain strategic advantage—and are not necessary where they are not clearly credible—for less damaging uses of NBC.

ASYMMETRIC CONFLICT 2010

The concept of asymmetric warfare is hardly new or revolutionary—recall the battle of David and Goliath. History is full of many examples of the weak defeating the strong.¹ But asymmetric conflicts have taken on a special significance for the United States over the last decade. With the end of the Cold War and the collapse of the Soviet Union, the focus of U.S. military planning has shifted from the possibility of a major war against a peer adversary to that of regional wars, ranging from major theater wars (against non-peers) at the high end down through smaller scale contingencies. At the same time, there has been growing concern about the proliferation of weapons of mass destruction (WMD) following a burst of chemical weapons proliferation in the 1980s, the near-brush with Iraqi biological weapons in 1992, and a near-war of preemption of North Korean nuclear capabilities in 1994 prevented only by the last-minute brokering by former President Jimmy Carter.

These twin factors combined to fuel a rising concern about the utility of WMD in asymmetric conflict. The notion that nuclear, biological, and/or chemical (NBC) weapons might be used by non-peer adversaries to attack U.S. forces or otherwise shape the dynamics of a regional war presented new—and alarming—possibilities.

As then-Secretary of Defense Les Aspin put it in 1993:

During the Cold War, our principal adversary had conventional forces in Europe that were numerically superior. For us, nuclear weapons were the equalizer...Today, nuclear weapons can still be the equalizer against superior conventional forces. But today, it is the United States that has unmatched conventional military power, and it is our potential adversaries who may attain nuclear weapons. *We are the ones who could wind up being the equalizee* [emphasis added]. And it's not just nuclear weapons. All potential threat nations are at least capable of producing biological and chemical agents.²

¹ Barry Wolf, "When the Weak Attack the Strong: Failures of Deterrence," RAND Note N-3261-A (Santa Monica, Calif.: RAND, 1991). See also Andrew Mack, "Why Big Nations Lose Small Wars: The Politics of Asymmetric Conflict," in Klaus Knorr, ed., *Power, Strategy, and Security* (Princeton, N.J.: Princeton University Press, 1983).

² Secretary of Defense Les Aspin, introducing the Defense Counterproliferation Initiative, December 7, 1993.

Aspin's remarks came in the context of his introduction of the Defense Counterproliferation Initiative, which he described as the set of programs and activities necessary to ensure that NBC weapons could not be used as trump cards to equalize U.S. military advantages.

Concern about the possible utility of NBC weapons in the asymmetric strategies of potential U.S. adversaries has only grown more pronounced over the decade since the Persian Gulf war. The first Quadrennial Defense Review, for example, emphasized the challenges of potential asymmetric strategies of regional U.S. adversaries, an emphasis that was substantially reinforced by the National Defense Panel's review and critique of the QDR. Secretary Cohen has recently reiterated the high-level concern:

America's military superiority cannot shield it completely from the NBC threat. Indeed, a paradox of the new strategic environment is that American military superiority actually increases the threat of nuclear, biological, and chemical attack against us by creating incentives for adversaries to challenge us asymmetrically.³

After nearly a decade of work on this problem, it is appropriate to pause and take stock. As the planning and investment strategies put in place over the last decade begin to pay increasing dividends in coming years, will U.S. military planners be able to content themselves that the asymmetric problem has been "fixed"? How much head-way has been made in addressing this problem? To what extent has the U.S. military brought into being the types of capabilities necessary to escape the equalizing potential of adversary WMD? How might the asymmetric strategies of potential U.S. regional adversaries change in response to interim improvements to U.S. military forces? What new insights into the asymmetric challenge have emerged as the United States has worked at the problem?

This paper sets out some speculative answers to these questions. It proceeds as follows. The paper:

- Begins with review of the asymmetric challenge. What is asymmetric conflict and what are the asymmetric strategies of potential U.S. adversaries? How might NBC weapons be used to support such strategies? What new or improved counterproliferation capabilities are necessary for U.S. forces in order to suppress the capability of a state to successfully exploit NBC threats or attacks in asymmetric warfare?

³ Secretary of Defense William Cohen, *Annual Report to the President and the Congress* (2000).

- Then takes stock of the progress that will have been made on the counterproliferation agenda over the two-decade period spanning 1990 to 2010. This section includes an analysis of multiple factors complicating the effort to take stock.
- Turns to the on-going debate in the U.S. defense community about whether the counterproliferation focus is the right focus in preparing for future asymmetric challengers. Three alternative constructs are explored, each with different implications for the future relevance of adversary WMD assets. There is an assessment here of the utility of Red-Teaming approaches for shedding light on likely future threats.
- Explores a series of arguments about why it is necessary to reduce vulnerabilities to NBC attack even in the absence of full knowledge of adversary intentions and techniques. Multiple strategic values associated with the counterproliferation agenda are identified. Especially important is the role of counterproliferation strategies in reducing reliance on nuclear threats to deter adversary use of WMD, in ways that help ensure that nuclear threats are not necessary where they are not clearly credible.
- Explores the political and strategic dimensions of wars of coercion with an eye toward Washington's challenges of managing the adversary's perceptions of the risks that both sides would run in such a war; and
- Concludes with a review of key themes and discussion of policy implications.

The timeframe adopted here spans the two decades from the Persian Gulf war to the year 2010. The former was clearly the wake-up call to the new challenges of asymmetric conflict in an era of NBC proliferation. The year 2010 was selected as a benchmark because, by then, many of the current investments in counterproliferation capabilities should have paid dividends in terms of substantial new capabilities reaching the field. Moreover, looking ahead a decade or so, it seems reasonable also to expect that ballistic missile defenses will be making a significant contribution to the U.S. defense posture and that some of the changes to the conventional force envisaged under the general rubric of Joint Vision 2010 (as recently revised to JV2020) will have come into being. By scoping the problem in this two-decade way, we are able to consider now whether mid-course corrections might be necessary to close on the desired goal.

A. DEFINING THE ASYMMETRIC CHALLENGE

Asymmetric conflicts have come to be understood as involving asymmetries of both capability and interest.

Concerning capability, in any confrontation between a regional power and the United States, the United States is able to bring overwhelming conventional power to bear, as well as nuclear escalation potential. Asymmetries of capability may be even

more pronounced if a coalition forms under U.S. leadership and brings other states within the region, and perhaps from beyond, into the effort to reverse an act of aggression. The aggressor cannot hope to best the U.S. and its partners in a raw match of military power.

Concerning interests, the asymmetry is found in the aggressor's perceptions of what is at stake in a regional war. He is likely to understand his interests in the conflict as vital, as the decision to initiate war reflects an assessment that the status quo has become intolerable, politically or otherwise.⁴ Alternatively, he may choose to exploit an opportunity to improve an already favorable position if opportunity beckons, in which case he may seek to gamble without putting the regime at risk. And the aggressor is likely to perceive U.S. interests as necessarily less than vital, on the argument that it is an over-the-horizon power that often makes the choice to disengage when costs begin to outweigh interests.

Asymmetric strategies are the means by which the militarily weaker state tries to bring whatever advantages it has to bear on the critical weak points of the stronger party. Those advantages are seen to include a propensity to run high risks, a reputation for ruthlessness, and a willingness to utilize massively destructive weapons to realize local gains. The perceived weaknesses of U.S.-led international coalitions include the following:

- the need to project power over long distances;
- the need to gain or maintain access to the region;
- the need for partners for the prosecution of such wars. This need may derive from the requirements of gaining access to the region, or it may derive from the political requirements associated with persuading the U.S. Congress that the burden will be shared by U.S. allies and others in the region;
- the requirement to achieve consensus among coalition members on objectives—and the means to achieve them;
- the political process by which the decision in Washington to use force is made after a period of intense and open debate;
- the casualty aversion of coalition publics—especially that of the United States;
- the powerful role of the news media in magnifying fears and anxieties and in motivating U.S. actions;
- and the political linkages that hold coalitions together.⁵

⁴ Kenneth Watman and Dean Wilkening, *U.S. Regional Deterrence Strategy* DRR-544/1-A/AF (Santa Monica, Calif.: RAND, 1994).

⁵ For further discussion of asymmetric strategies, see Frank C. Zagare and D. Marc Kilgour, "Asymmetric Deterrence," *International Studies Quarterly*, Vol. 37, No. 1 (March 1993), pp. 1-28; Patrick Garrity, "Implications of the Persian Gulf War for Regional Powers," *Washington Quarterly*, Vol. 16, No. 3

NBC weapons have come to be seen among U.S. defense planners as potentially very useful to an adversary in the prosecution of asymmetric strategies. But in trying to come to terms with the possible role of NBC weapons in asymmetric regional wars, defense planners have been on a steep learning curve. The necessity for such learning has to do with the fact that the conceptual models available for understanding the dynamics of NBC theater wars have proven ill-suited to the new problem. One model is provided by Cold War-vintage thinking about thermonuclear wars in which weapons of mass destruction are employed with Armageddon-like results.⁶ The obvious limitation of this model is that theater wars in which U.S. adversaries employ WMD do not pose Armageddon-like risks for the United States, though they may for the adversary and potentially for U.S. friends and allies in the region. A second model is the limited war model, in which U.S. adversaries exploit U.S. unwillingness to utilize its full power potential in order to gain what they can operationally and politically. The Vietnam conflict is, of course, the premier example.⁷ The limitation of this model is that the introduction of the WMD dimension creates a very different political context in which Washington and its allies must make decisions about what outcomes serve their interests.

A better model begins with some appreciation of the types of strategic imperatives that would guide a regional actor's choices about how to prosecute a conflict against the United States. In the canonical major theater war, they encompass the following:⁸

- Prior to an act of aggression, the aggressor will likely seek to isolate the United States to the maximum extent possible in the hope that this will deny it allies, partners, basing rights, etc., in the conflict to come. This could entail destabilizing countries with which Washington might hope to affiliate itself, through the use of proxy groups, terrorism, propaganda, and other types of psychological operations.
- Once the aggressor acts, his primary goal would be to achieve a militarily decisive fait accompli prior to outside intervention. This would present the United States

(Summer 1993), pp. 153-170; and Garrity, *Does the Gulf War Still Matter: Foreign Perspectives on the War and the Future of International Security*, CNSS Report No. 16 (Los Alamos, N.M.: Center for National Security Studies, Los Alamos National Laboratory, May 1993).

⁶ This model is most fully elaborated in Herman Kahn, *Thinking About the Unthinkable* (New York: Horizon Press, 1962).

⁷ For an exploration of the dynamics of such wars, see Fred Charles Iklé, *Every War Must End* (New York, N.Y.: Columbia University Press, 2nd ed., 1991).

⁸ This model has been previously elaborated in work by the Institute for Defense Analyses. See for example Brad Roberts, *Biological Weapons in Major Theater War*, IDA Document D-2234 (Alexandria, Va.: Institute for Defense Analyses, November 1998). See also Roberts, "Terrorism and Asymmetric Conflict," in Roberts, ed., *Hype or Reality: The "New Terrorism" and Mass Casualty Attacks* (Alexandria, Va.: Chemical and Biological Arms Control Institute, 2000).

and its partners with a difficult choice between attempting to reverse the aggression at potentially high cost, or acquiescing to it.

- Whether or not the effort to achieve a *fait accompli* succeeds, once having acted, the aggressor will have an interest in dissuading formation of a coalition around U.S. leadership and thereby isolating the United States. The aggressor might hope that such isolation would be militarily crippling to the effort to reverse its aggression, by denying U.S. intervention forces necessary bases of operation and logistic support. He might also hope that it would be crippling politically, by sowing debate in Washington and especially the Congress about whether the United States genuinely has an interest in intervening in a crisis where locals in the region apparently prefer not to act.
- If the aggressor fails to dissuade coalition formation (or a U.S. decision to act unilaterally), then its interest is in deterring the coalition (or the United States alone) from taking military action, thereby securing the aggression. The deterrent effect of available conventional weapons likely would not seem particularly compelling.
- If such deterrence fails, the aggressor's interest shifts yet again—to crippling the intervention in its early phases in order to prevent the coalition from exploiting its full military potential and conventional advantages, and thus to create a prolonged stalemate and a basis upon which to negotiate an outcome that protects some or all of the aggressor's gains.
- If through these means the aggressor is not able to cripple the intervention and the United States is able ultimately to bring its full conventional power to bear, then the aggressor's interest shifts to defeat of the coalition's in-theater forces and denying it any advantages of escalation.
- If the aggressor fails to defeat the coalition and prevent it from escalating, his interests shift yet again: to preventing battlefield defeat from becoming strategic defeat in terms of dismemberment of the military, occupation of the country, and/or removal of the aggressor regime by the coalition.
- The conflict dynamics in this war termination phase are a matter of substantial speculation.⁹ One possibility is presented in the history of Nazi Germany and Hitler's virtual embrace of the punishment meted out to Germany by the invading powers as just punishment of a people that had failed in creating the thousand-year Reich. By this analogy, a regional aggressor might employ massively destructive weapons in the late phases of a war, fully aware of the reprisal to come, but seeing it as a price to be paid for the failure of some grand ambition. Another possibility is presented by those instances in history when professional military leaders chose not to carry out their political leader's dictate to take actions which they considered tantamount to national suicide. By this analogy, the regime may be motivated to escalate but the military may be unwilling to do so.

⁹ For an exploration of the possible escalation and de-escalation dynamics of a major theater war involving the use of weapons of mass destruction, see Brad Roberts, "Rethinking How Wars Must End: NBC War Termination Issues in the Post-Cold War Era," in Victor Utgoff, ed., *The Coming Crisis: Nuclear Proliferation, U.S. Interests, and World Order* (Cambridge, Mass.: MIT Press, 2000).

- A final phase must be considered. If the original aggression is reversed, the military is hobbled, and the country loses some measure of sovereignty but the regime escapes the war intact, then the regime's goals would be (1) to prevent a consolidation of regional forces detrimental to its interests and perhaps (2) to exact revenge against those within and beyond the region (and perhaps domestically) who fought against it. A weak, collapsing regime might be particularly motivated to exact such revenge.

This explication of the strategic imperatives that might be expected to shape an adversary's approach to confrontation with the United States in a major theater war provides a framework for understanding where, when, why, and how NBC weapons might be used to dissuade, deter, coerce, or defeat U.S. military forces. The aggressor would target the vulnerabilities of the United States and its coalition partners in different ways, depending on the phase of the conflict, with the hope of inducing certain, specific strategic behaviors by Washington and its partners that serve the adversary's interest at any given phase. Threats would be made and targets attacked in order to establish the credibility of the threat, with the hope of generating fear so that a political concession of some kind can be extracted from decision-makers in Washington.

Over the last decade U.S. analysts have attempted to disaggregate the roles that the different types of weapons of mass destruction—nuclear, biological, and chemical—might play in service of asymmetric strategies and tactics, and to explore the concepts of operation that an adversary might elaborate.¹⁰ This has led to the emergence of multiple and indeed competing views of the utilities of different weapons. There are some who discount the nuclear dimension entirely, on the argument that any nuclear use by a regional adversary would necessarily invoke a U.S. nuclear reply and would bring with it risks of further escalation that a state armed with at most a handful of nuclear weapons could not hope to match. Looking ahead a decade or two, others discount the chemical and biological component, on the argument that nuclear proliferation is proceeding and only nuclear weapons have both the mass casualty potential and the political cachet to change the world. Some write off chemical weapons as not sufficiently strategic in their

¹⁰ See for example Dean Wilkening and Kenneth Watman, *Deterring Nuclear Threats From Regional Adversaries*, RAND Report DRR-544/2-A/AF (Santa Monica, Calif.: RAND, 1994); *Assessment of the Impact of Chemical and Biological Weapons on Joint Operations in 2010* (McLean, Va.: Booz-Allen & Hamilton, 1997); Stuart E. Johnson, ed., *The Niche Threat: Deterring the Use of Chemical and Biological Weapons* (Washington, D.C.: National Defense University, 1997); Victor Utgoff, *Nuclear Weapons and the Deterrence of Biological and Chemical Warfare*, Occasional Paper No. 36 (Washington, D.C.: Henry L. Stimson Center, 1997); Wolfgang Panofsky, "Dismantling the Concept of Weapons of Mass Destruction," *Arms Control Today* (Vol. 28, No. 3 (April 1998), pp. 3-8; and Robert G. Joseph and John F. Reichart, *Deterrence and Defense in a Nuclear, Biological, and Chemical Environment* (Washington, D.C.: Center for Counterproliferation Research, 1999).

effects, given the challenges of sustaining the dosages necessary to cripple a large military force, especially one protected with passive defensive gear. But others argue that chemical weapons can be delivered against civilian targets in ways that cause casualties on a truly massive scale—and without substantial technical difficulty. Biological weapons are written off by some as historical anachronisms or as militarily unreliable, while others view them as the likely weapon of choice in future asymmetric conflicts, given their utility for a broad range of operational and strategic applications and the possibility that their judicious use would not trigger a U.S. nuclear reply.

Often overlooked in expert analysis of adversary asymmetric techniques is the fact that the aggressor is engaged in an analysis of benefit and risk. This paper has so far only touched on his potential benefits. What about his risks? Clearly, the adversary runs some important risks in attempting to manipulate Washington in this way, risks not always appreciated by those in the U.S. defense community impressed with the significant operational potential of weapons of mass destruction. The primary risk is that the acts aimed at inducing certain desirable behaviors may have a contrary effect. Rather than inducing the United States to back down or go home or sue for peace short of optimal outcomes, such actions may instead incite a strong reply in retaliation and reprisal. They may induce Washington and its coalition partners to set regime removal as a war aim (if it had not previously been agreed).¹¹ These acts may precipitate a decision to bring to bear an additional measure of U.S. conventional and/or nuclear power, including that additional increment that the aggressor had hoped to induce the U.S. to continue to hold in abeyance by his threats.

The Defense Counterproliferation Initiative was established in 1993 to make the changes to the U.S. defense posture that would deny U.S. regional adversaries the capability to utilize NBC threats and attacks to gain decisive strategic leverage over the United States and its coalition partners. Counterproliferation encompasses a broad range of activities:¹²

- Improvements to passive defenses such as detectors, personal protection gear, medical prophylaxis, etc.

¹¹ For a discussion of what might precipitate a decision to not only defeat a WMD-armed aggressor but also disarm and reform him, see George H. Quester, “The Response to Renegade Use of Weapons of Mass Destruction,” in Utgoff, *The Coming Crisis*.

¹² *Proliferation: Threat and Response*, November 1997, prepared by the Office of the Secretary of Defense. See also Peter L. Hays, et al., *Countering the Proliferation and Use of Weapons of Mass Destruction* (Colorado Springs, Colo.: U.S. Air Force Academy Institute for National Security Studies with McGraw Hill, 1998) and Barry R. Schneider, *Future War and Counterproliferation: U.S. Military Responses to NBC Proliferation Threats* (Westport, Ct.: Praeger Press, 1999).

- Improvements to active defenses which, if effectively deployed, can significantly reduce the required effectiveness of passive defenses.
- Improvements to counterforce attack capabilities (including improved targeting and more effective management of the risks of collateral, down-wind hazards), which might be employed preemptively or as a war unfolds to reduce the adversary's capability to sustain reattack.
- Adjustments to the way the forces project, posture, and fight, with the requisite doctrine and training suitable to the presence of NBC threats, including a substantial emphasis on force protection, especially against attack with chemical and biological weapons (CBW).
- Supporting and collaborative activities with U.S. allies and prospective coalition partners in key regions of high risk, so that there can be some more equal sharing of protection and risk.
- Complementary "prevention strategies" or "risk reduction strategies" that employ political, economic, and other policy tools to inhibit the capability of regional aggressors to acquire and employ robust NBC assets.

This program was originally focused primarily on the most significant high-end challenge facing the U.S. military—the major theater war (MTW). But given the broad engagement of U.S. military forces over the last decade in various smaller-scale contingencies, there has been rising concern about the potential utility of unconventional weapons, especially chemical and biological ones, in smaller-scale contingencies—and with this interest a hope and conviction that by preparing the force for the high-end contingency, the right capabilities will come together for the less demanding contingencies.¹³

The ultimate effect of the counterproliferation effort is expected to be the creation of an operational capability that would allow the United States and its coalition partners, despite the presence of in-theater NBC threats, to:

- Conduct effective defensive operations to check aggression.
- Neutralize or destroy opposing NBC capabilities.
- Project power into the theater, and assemble forces and support.
- Protect OCONUS and CONUS forces while also maintaining optempo.
- Protect mission-essential assets such as air- and sea-ports of debarkation (A/SPODS) and logistics centers.

¹³ This assumption merits further scrutiny. In peacekeeping and similar activities, the primary role of U.S. forces is to protect non-combatant civilians. The requirements associated with protecting them from attack by chemical and biological weapons may well exceed the requirements of civilian protection in a major theater war, if in the smaller-scale contingency casualties must be kept at or near zero in order to sustain U.S. engagement. See Brad Roberts, *Counterproliferation and the Spectrum of Conflict*, Institute for Defense Analyses, September 1998.

- Protect critical host national support personnel from direct or SOF attack.
- Protect U.S. diplomatic personnel and the families of OCONUS military forces from direct or SOF attack.
- Provide enough protection to civilians in theater and outside the theater to reassure them that the costs will be bearable.
- Execute theater counteroffensive.
- Retaliate for NBC leakage, and escalate if necessary.
- Eliminate or control opponent's residual NBC.
- Accomplish war aims set by political leaders.
- Reconstitute if necessary for a second MTW.¹⁴

Counterproliferation was not originally conceived to deal with the possibility that WMD-armed regional aggressors might employ their weapons against targets in the United States, whether civilian or military. This has been a possibility of rising concern, especially after the sarin attack on the Tokyo subway by Aum Shinrikyo in 1995, and subsequent revelations about its broader WMD ambitions.¹⁵ This aspect of the asymmetric challenge is explored in further detail in a following section of this report.

B. TAKING STOCK

Over the last decade, the Department of Defense has allocated substantial assets to the counterproliferation agenda, while also reorganizing a number of times to more effectively achieve desired goals. The purpose of this paper is not to review this budgetary, programmatic, or organizational history,¹⁶ rather, it is to take stock. Looking back from the perspective of 2010, how far will we have come in addressing the challenges of asymmetric warfare? One answer can be found by projecting forward incremental improvements to each of the counterproliferation capabilities noted above.¹⁷

Passive Defenses: In general, over the last decade there has been progress in funding shortfalls in deployed systems and in developing follow-on technologies. More specifically:

¹⁴ This list of operational capabilities was compiled in Brad Roberts and Victor Utgoff, *Counterproliferation: A Mid-Term Review*, Institute for Defense Analyses, September 1997.

¹⁵ David E. Kaplan and Andrew Marshall, *The Cult at the End of the World* (New York, N.Y.: Crown Publishers, 1996).

¹⁶ For a significant benchmark in the process of reorganization, see *Combating Proliferation of Weapons of Mass Destruction*, report from the Commission to Assess the Organization of the Federal Government to Combat the Proliferation of Weapons of Mass Destruction, July 1999.

¹⁷ See *Chemical and Biological Defense Program: Annual Report to Congress, March 2000*, *Joint Service Chemical and Biological Defense Program, FY00-FY01 Overview*, and the Joint Warfighting Science and Technology Plan.

- Individual protection: Over the last decade, progress has been made in fielding the lighter-weight JSLIST suit and making it available in increasing quantities for the forces, and in vaccinating the force against anthrax. Looking ahead to the next decade, progress will be made in a number of areas. These include improved protection gear that is less burdensome on the wearer (meaning that the degradation effect of the need to operate in a protected posture on the overall war-fight will be further reduced); as well as broader medical prophylaxis and protection techniques, especially through exploitation of recombinant technology for vaccine production.
- Collective protection: Over the last decade, progress has been made in making such protection available to a larger number of critical facilities. In the coming decade, further progress is expected in developing collective protection capabilities for air- and sea-ports of debarkation and embarkation, for medical facilities, and for naval vessels.
- Sensors and detection: Over the last decade, progress has been made in fielding hand-held point detectors and in developing technologies for detecting some of the most important biological threat agents, such as the Joint Biological Remote Early Warning System. In the coming decade, substantial progress is expected in fielding technologies allowing for improved early warning, with stand-off detection systems employing laser and optical technologies as well as unmanned aerial vehicles (UAVs). These systems will integrate multiple technologies to improve performance in detecting, identifying, and characterizing more sophisticated threats.

Active defenses: Over the last decade, there have been limited deployments of the Patriot systems and substantial investments in follow-on technologies. Looking ahead to 2010, expectations are high that improved capabilities will be deployed. At the theater level, the Services expect to field high-performance systems against theater ballistic missiles, and possibly also systems against cruise missiles. Conceivably, the Air-Borne Laser system will supplement these capabilities in this timeframe, along perhaps with boost-phase intercept systems. Within the 2010 timeframe, a limited national missile defense is also a possibility.

Counterforce attack capabilities: Over the last decade, there have been improvements to both conventional and nuclear means for attacking deep and hardened targets, along with development of improved target planning tools. Looking ahead to the coming decade, a number of significant improvements are expected. One is the fielding of enhanced lethality warheads, capable of destroying munitions or stored CBW agent with reduced risk of collateral damage. Another is the fielding of enhanced penetrators for hardened targets, including especially conventional cruise missile systems. The continued emphasis on agent defeat technologies is expected to pay dividends in the development of ordnance that can render undestroyed stocks unusable. Improved damage

and combat assessment capabilities are promised through the development of UAV-based systems.

Operational adjustments: Over the last decade, there has been some progress in developing new joint and Service doctrine, plans at the CINC level for operations in an NBC environment, and improved training across the board. These will benefit significantly from on-going development of techniques for the restoration of operations after attack, emphasizing diagnostics, treatments, logistics, and decontamination of both individuals and facilities. In the longer-term, improvements to decontamination techniques are expected through exploitation of enzymatic and other technologies suitable for use on sensitive equipment. Improvements are also expected to the capability to avoid contamination, through development of battle management systems incorporating a CBW sensor component that can enable actual and predictive situational awareness.

C. THE CHALLENGES OF TAKING STOCK

But this review of prospective capability enhancements does not in fact answer the question of how good U.S. forces can be against the NBC threats of 2010. How good will they be? The short answer would appear to be that no one really knows. Despite a great deal of effort in defining aspects of the problem, motivating the counterproliferation agenda, and developing new technologies, leaders of the counterproliferation effort have not yet generated a clear understanding of how the necessary capabilities are supposed to come together and, thus, when they will do so. In the words of a previous strategic assessment of counterproliferation by IDA, there is a great deal of progress to report over the last decade, but no clear success—because no one appears to know what success means.¹⁸ In lieu of a clear picture of how capabilities must come together to meet specific performance requirements, all that can be discerned in the broad base of activities are piecemeal improvements, with the promise of more to come.

In fact, there are additional factors complicating the effort to take stock. Five are discussed here.

One is the absence of a clear, compelling, and definitive intelligence-based definition of the threat. Potential regional aggressors—the states until recently deemed “rogues”—are closed societies, compounding the challenge of comprehensively assessing the state of weapons capabilities being developed covertly. Illicit WMD development

¹⁸ Roberts and Utgoff, *Counterproliferation: A Mid-Term Review*.

programs make inherently difficult intelligence targets, especially if steps have been taken to mask those activities through close physical integration with legitimate commercial or other peaceful activities.¹⁹ This is especially true of biological weapons programs, where there may be relatively few signatures specifically associated with a weapons development program. Moreover, these states have had abundant opportunity to observe and learn from the concealment, denial, and deception techniques employed by Iraq in its long-running stand-off with the United Nations Security Council. And looking ahead a decade or so, it is clear that new “states of concern” could emerge very rapidly, with unpredicted—and unpredictable—capabilities. From Iraq’s serious start-up of its biological weapons program to its deployment of BW weapons in the lead-up to the Persian Gulf war, only about three years passed.²⁰ In the nuclear domain, efforts such as the Agreed Framework with North Korea have inhibited the accumulation of nuclear weapons capability by states of concern, although such efforts are as yet incomplete and could be reversed under different circumstances. Given these multiple factors, it is nearly impossible to project with confidence the specific parameters of the most likely NBC threat to be faced by U.S. forces a decade from now. At best, a “threat envelope” might be developed, as specified in further detail below.

The second factor is that America’s most likely adversaries are pursuing work-arounds to the kinds of capabilities that the U.S. military is bringing into being.

In the chemical domain, for example, proliferators are moving from first- and second-generation agents to more advanced ones, which greatly increase the demands on passive defenses. Qualitative improvements to delivery systems and quantitative improvements in the form of larger stockpiles of deliverable agent can also be anticipated.²¹ The planned improvements to U.S. passive defenses must keep pace with this movement from early to later generation threat agents. Even with the full achievement of planned improvements over the next decade, U.S. forces will continue to bear a significant operational burden if forced by an adversary with large quantities of agent to operate in the protected posture for very extended periods.

¹⁹ Statement by Director of Central Intelligence George J. Tenet Before the Senate Select Committee on Intelligence on The Worldwide Threat in 2000: Global Realities of Our National Security, February 2, 2000. This was the latest in a long series of annual public statements from the IC on the proliferation threat.

²⁰ Graham Pearson, *The UNSCOM Saga: Chemical and Biological Weapons Non-Proliferation* (New York, N.Y.: St. Martin’s Press, 1999), pp. 126-168.

²¹ *Proliferation: Threat and Response*, 1997.

In the biological domain, proliferators can explore multiple work-arounds. To defeat agent-specific detectors, novel agents can be created through modification of existing agents to reduce identifiability, through genetic construction of new agents, or simply through utilization of non-traditional agents on the CBW spectrum, such as bioregulators. Proliferators can also develop non-aerosol vectors for BW delivery, including the use of contagious agents; or development of agents that infect through the eyes rather than the lungs; or contamination of food, water, livestock, or crops. In the biological domain there is also the option of attempting to overwhelm passive defenses with high-density attacks and sustained re-attack. Improving sensors and medical prophylaxis and treatment strategies for U.S. forces will have to keep pace with these potential changes to the BW threat.

To try to circumvent active defenses, potential U.S. adversaries have multiple options.²² If theater ballistic missile defenses are deployed in limited numbers, it may be possible to overwhelm them with simple raw numbers, whether of launchers, warheads, or submunitions. In the work so far done in support of such defenses, raid sizes and re-attack capabilities are key parameters affecting overall system performance. The adversary can also employ jammers, decoys, and radar-absorbent materials to hinder detection and identification of warheads. Early-release submunitions can also be developed to help overwhelm the defense. Adversaries might also pursue alternatives to ballistic missiles as delivery techniques for NBC weapons, including cruise missiles or UAVs. Interest in the application of low-observable technologies to these platforms is evidently rising. A more mobile launcher force can also be developed in the effort to limit the effectiveness of U.S. counterforce.

The work-around strategies being pursued by specific proliferators are the subject of study by the Intelligence Community and are not available for discussion in an unclassified product such as this.

A third factor complicating the effort to take stock relates to effectiveness of risk and threat reduction strategies over the coming decade.

As noted above, such strategies encompass a broad set of political, economic, and other measures. Their impact on the capabilities of potential U.S. adversaries is much debated, not least because it is difficult to gauge. But the possibilities deserve review.

²² For a detailed unclassified discussion, see "Countermeasures: A Technical Evaluation of the Operational Effectiveness of the Planned US National Missile Defense System," a report issued by the Union of Concerned Scientists and the Massachusetts Institutes of Technology, April 2000.

Export control regimes may impair the capability of proliferators to gain access to the technologies, material, or expertise necessary to climb the learning and capabilities curves associated with NBC weapons. Arms control regimes too may be helpful, not least by driving the determined proliferator literally and figuratively underground, which may have an impact on the overall capability available to a proliferator in time of war. That impact might derive from weak integration with delivery systems, poorly developed concepts of operations, and un-practiced doctrine. There may also be significant quantitative limits on the number of deployable warheads/munitions produced or stored underground, especially if key points of egress can be attacked. Such strategies may help to reduce the capability of the adversary to employ large numbers of sophisticated NBC weapons. But their effectiveness over the coming decade cannot be fully predicted.

A fourth factor complicating the effort to take stock is the fact that the strengths and weaknesses of U.S. conventional forces vis-à-vis proliferator WMD threats will evolve independently of steps taken in the counterproliferation realm to defend against NBC threats and attack enemy NBC capabilities. That evolution has to do with the effort to reap the benefits of the revolution in military affairs (RMA), as elaborated in the context of Joint Vision 2010/2020.

With its emphasis on dominant maneuver, precision engagement, focused logistics, full dimensional protection, and information superiority, the Joint Vision promises to ease many of the burdens associated with regional wars against NBC-armed aggressors. The emphasis on information superiority and full spectrum dominance offers some gains in the likely utility of counterforce attack operations in the overall mix of U.S. capabilities, thus reducing the performance burden on active and passive defenses. Information superiority also implies an ability to collapse the adversary's ability to effectively command and control long-range NBC strike assets. Improved force agility and mobility should make it more difficult to attack with weapons of any type. The smaller footprint and logistics tail promised by the RMA also should reduce the number of high-value targets available for NBC attack, as should the emphasis on dispersed operations. Full dimensional protection also should promise protection against CBW attacks delivered by special operations forces.²³

²³ This section reiterates arguments made by Dr. James Miller, then-Deputy Assistant Secretary of Defense for Plans, Requirements, and Counterproliferation, at a July 14, 2000 symposium at IDA. The symposium explored the impact of U.S. efforts to implement the revolutionary in military affairs (RMA) on the asymmetric problem. It identified multiple counters to the RMA at the tactical, operational, and strategic level. A classified summary of the discussion is available as Brad Roberts, *Red-Teaming the RMA*, IDA Document D-2524 (Alexandria, VA: Institute for Defense Analyses, 2000).

Cumulatively, these four factors have made it nearly impossible to gauge whether in 2010 U.S. military planners will have closed off the asymmetric challenges posed by regional aggressors with NBC weapons.

D. ALTERNATIVE CONSTRUCTS

There is an additional complicating factor: Many in the defense community do not accept the canonical problem (major theater war with an NBC dimension) as the most likely form of asymmetric conflict that the United States will face in the year 2010. They perceive a different set of asymmetric challenges on the horizon. Opinion appears to be coalescing around three very different models of the problem, which are termed here alternative constructs of the asymmetric problem. These are built around the following main arguments:

1. The central problem is not in the vulnerability of military forces in the theater to an adversary's use of WMD, which can be deterred by nuclear means. The central problem is the vulnerability of allied and U.S. civilians to covertly delivered WMD, especially biological weapons. Think Homeland Defense.
2. The central problem is not the vulnerability of military forces but the political will of the American public to avoid casualties and quagmires. Adversaries do not need to risk WMD attack to extract the strategic behaviors from Washington that they desire. The RMA brings with it new vulnerabilities that the adversary will be able to exploit to his advantage. Think Vietnam redux.
3. The central problem is not a major theater war against a small power made big by WMD, but a limited war against a major power with a significant nuclear capability. Think China and a U.S.-PRC limited war over Taiwan.

Each of these constructs of the asymmetric problem has very different implications for the potential role of WMD in adversary strategies and for where and how resources are focused to reduce vulnerabilities.

1. Homeland Defense

This camp holds to the view that strategic behaviors desired of Washington—restraint in one form or another, whether military or political—can be induced without running any of the risks associated with weapons of mass destruction. Instead, goes the argument, such behaviors can be induced by attacks on (or even just threats to attack) the American homeland.

Homeland attack could be conducted by physical means. This entails acts of terrorism against targets in the United States, whether civilian or governmental. Or such attacks might be carried out in cyberspace, using electronic means. The vulnerability of

critical commercial, governmental, and military infrastructure to such attacks has been a subject of rapidly rising concern over the last decade.²⁴ There has also been a growing concern about the vulnerability of society in general, the sense that American economic and social well-being itself might be targeted, perhaps in attacks knit together in a campaign of activities aimed at generating so much disruption and dislocation that the American public begins to lose confidence in the institutions of government, potentially raising the stakes for the United States to the level of governability.²⁵

Adherents of this camp are only little concerned with the possible role of NBC weapons in such attacks. They tend to dismiss such weapons as involving excessive risks of U.S. retaliation—of making it too easy, politically, for the United States to retaliate and counter-escalate. There is, however, a particular concern about the utility of biological weapons in such scenarios, given their potentially high lethality, but also the possibility of employing them covertly. Biological weapons may have substantial perceived utility for the terrorist, but for the state attempting to coerce Washington through acts of terrorism, their use would certainly run the risks identified above of inducing escalation rather than restraint.

2. Vietnam Redux

A second camp has begun to form around the core proposition that it is possible for the aggressor to achieve his principal strategic objectives in the theater—to induce U.S. withdrawal before achievement of its war aims—without resorting to the high-risk use of nuclear, biological, or chemical threats or attacks. Adherents of this camp generally believe that regional actors are likely to have sufficient conventional power to achieve their ends, even if that conventional power is far inferior to that of the United States, and that the necessary strategic behaviors can be induced of Washington without projecting the war into the American homeland (which they also tend to see as unnecessarily risky).²⁶ In the words of one analyst, “first principles for defeating a global

²⁴ See for example “Critical Foundations: the Report of the President’s Commission on Critical Infrastructure Protection,” October 1997. See also Randall J. Larsen and Ruth A. David, “Homeland Defense: Assumptions First, Strategy Second,” *Strategic Review* (Fall 2000), pp. 4-10.

²⁵ See Fred C. Iklé, “The Next Lenin: On the Cusp of Truly Revolutionary Warfare,” *National Interest* 47 (Spring 1997), pp. 9-19.

²⁶ See Sydney J. Freedberg, “Beyond the Cole,” *National Journal*, October 21, 2000, for a detailed discussion of the view that asymmetric counters are available to adversaries across the full spectrum of conflict and that they do not require recourse to high-risk attacks with NBC weapons.

power [without WMD] are in wide discussion ‘out there’.”²⁷ These principles appear to still be in the formative stage of debate among U.S. experts, but the research performed for this study suggests that they encompass the following:

1. The weak can defeat the strong.
2. Take a long time to prepare.
3. Red can out-innovate Blue.
4. Strike a fait accompli, reversible only at high cost.
5. The Information Age empowers Red as much as Blue.
6. Blue precision-guided munitions can be defeated.
7. Red counterstrikes cannot be “defeated.”
8. Embarrass America.
9. Time is not to the U.S. advantage. America fears quagmires.
10. Escalate in ways that make it hard for the U.S. to counter-escalate.
11. Don’t surrender. So long as you never lose, you’ve won.

The essence of this approach to asymmetric conflict is that the American public can be made weary of the costs of prolonged war, which will translate into an eventual political willingness to settle the conflict on terms that preserve the aggressor regime and potentially some of its original gains. And it can be made weary through sustained generation of U.S. casualties that will not result in U.S. escalation so long as those casualties do not occur suddenly or dramatically or otherwise generate great fear or anger among the American public. Indeed, recourse to WMD attacks in-theater and to terrorist attacks on the U.S. public could be seen as unnecessarily provocative. As Freedberg has argued, “If an adversary’s greatest asset is American indifference to conflicts in distant lands, then the last thing he wants to do is bring the war home to America.”²⁸

3. China/Taiwan

A third camp is forming around the proposition that the most likely major conflict in the decade ahead is not the canonical major theater war against a local rogue but a conflict over Taiwan, bringing China and the United States into confrontation under the nuclear shadow.²⁹

²⁷ This statement was made as an introductory remark by one of the speakers at a day-long symposium at IDA referenced in footnote 24. The speaker was a senior member of the Intelligence Community, speaking on a not-for-attribution basis. The 11 principles that follow in this text reflect the author’s effort to distill the key strategic points from that discussion.

²⁸ Freedberg, “Beyond the Cole.”

²⁹ Michael Pillsbury, *China Debates the Future Security Environment* (Washington, D.C.: National Defense University, 2000), especially Chapter 6 on “Projecting Future Wars.” See also Mark A. Stokes, *China’s*

In such a conflict, China would be proceeding from a position of marked technological inferiority, but not necessarily from a markedly weaker capacity to bring conventional power to bear at times and places of its choosing and to thereby gain an advantage. The asymmetry of capability might be played to China's advantage if it is careful to choose a moment to press a military solution to the Taiwan situation when U.S. forces are heavily engaged elsewhere, and by using threats of salvo ballistic missile attacks and perhaps cyberwar techniques in the hopes of gaining capitulation by Taipei without having to conduct a sea-borne invasion and occupation. An asymmetry of interest would also be at play, as the Communist Party in Beijing has come increasingly to define a resolution of the Taiwan situation as essential to regime stability and perhaps survival.

In such a war, NBC weapons would not likely play a direct military role, though with two important caveats. First, Beijing evidently wishes to induce restraint by Washington by reminding it of the vulnerability of U.S. cities to attack with nuclear-tipped intercontinental ballistic missiles launched from China. Second, there is evidence to suggest that debate is under way in China today about ways to use nuclear weapons that gain advantages over Taiwan and the advanced conventional forces of the United States, but without crossing a threshold to U.S. nuclear retaliation. One such approach, for example, focuses on the possible use of nuclear weapons only for their electro-magnetic pulse effects.³⁰

As China readies itself for such a conflict, it employs the concepts and strategies of asymmetric warfare.³¹ Indeed, Chinese experts would argue that China invented the very notion of asymmetric warfare, with the historic role of Sun Tzu in emphasizing strategies to defeat enemies without fighting them and as updated by Chairman Mao in the People's War concept (exploit mass). China is actively pursuing concepts for the asymmetric engagement of U.S. forces in the sea, land, and air domains and in the space and cyber environments. The likelihood of a Chinese decision to pursue a military option across the Taiwan strait is an open question. More certain is the effect that China's effort to develop asymmetric capabilities and strategies will have on the asymmetric problem confronting U.S. forces more generally. In the coming years it seems highly likely that

Strategic Modernization: Implications for the United States (Carlisle, Pa.: Strategic Studies Institute, 1999).

³⁰ Stokes, *China's Strategic Modernization*. See also Manning, Montaperto, and Roberts, *China, Nuclear Weapons, and Arms Control* (New York: Council on Foreign Relations, 2000).

³¹ As a part of this project, IDA convened a symposium to explore China's potential role as an asymmetric adversary. A classified summary of the discussion is available as Brad Roberts, *China and Asymmetric Warfare*, IDA Document D-2525 (Alexandria, Va.: Institute for Defense Analyses, 2000).

Chinese military thinkers will emerge as a leading force in the effort to define and exploit U.S. weaknesses, as they interact with their counterparts in other countries concerned with the possibility of U.S. intervention.

E. THE EMERGING COMPOSITE PICTURE OF ASYMMETRIC WARFARE

In sum, four quite different ways of thinking about the asymmetric problem have taken shape over the last decade. There is a natural tendency to ask which of the four is right. Is it:

1. A major theater war against an NBC-armed rogue?
2. A major theater war where the adversary attacks civilians in the United States, perhaps with CBW?
3. A prolonged war of attrition that sees no use of WMD?
4. A U.S.-PRC confrontation over Taiwan but under the shadow of nuclear exchange?

The alternatives to the canonical view (number one above) have emerged in part because we have not seen adversaries make use of the chemical and biological weapons available to them since the Persian Gulf war. Yugoslavia did not use such weapons to try to dissuade the coalition from acting or from escalating as the war unfolded (just as Iraq refrained from the uses of CBW that apparently were available to it in the Persian Gulf war). Nor have others used such weapons in the myriad smaller-scale contingencies in which the United States has been engaged since the end of the Cold War. Surveying this experience, some are skeptical that the NBC construct is the right one. On the other hand, with the exception of the Persian Gulf war, none of these wars was a major theater war involving the massive U.S. use of both air and ground forces. Moreover, in none of these wars did Washington pursue removal of the regime as an explicit goal.

This absence of consensus about the nature of the asymmetric problem is unavoidable. With the end of the Cold War, we have moved into an era in which the potential military adversaries of the United States cannot be predicted with confidence and thus known in detail. The defense planner may lament this fact, as it frustrates prioritized and focused investment strategies to reduce vulnerabilities. But for the moment at least, the absence of consensus about the nature of the asymmetric problem is probably helpful. Systematic exploration of the multiple asymmetric strategies and techniques available to potential U.S. adversaries helps to illuminate the range of possible military (and political-military) challenges that the United States may confront in the decades ahead. As U.S. military planning shifts from an emphasis on threat-based

approaches to one emphasizing capabilities, a healthy debate among U.S. analysts about the basic parameters of the asymmetric problem and of the range of tactics and techniques available to less-than-peer powers to prosecute asymmetric strategies against the United States is essential for bringing into better focus the types of capabilities required of U.S. forces.

This points to the utility of Red-Teaming approaches at a time when the threat cannot be well defined. Such approaches can help if they knit together technical, operational, and political expertise in order to define the tactics and strategies as an adversary might devise them. But they will fail unless they incorporate some notion of an adversary's core strategic objectives, his interests and values, his propensity to run risks, and his ability to innovate. Without such a notion, Red-Team approaches can only produce insights into how an inventive adversary might exploit new technological possibilities. With such a notion, such approaches can produce insights into how a thinking, adaptive adversary would likely employ technically feasible capabilities in ways suited to his purposes. A cumulative assessment of the types of threats posed by such actors should provide a sound basis for the capabilities-based approach to the requirements process that has been adopted in the post-Cold War years. Such an assessment would permit definition of a "threat envelope" encompassing the most likely threats against which military planning must be undertaken.

In constructing such a picture of the likely motives, capabilities, and thus strategies of potential U.S. adversaries in asymmetric conflicts, it is important to guard against two tendencies evident in the defense planning community. One tendency is to overestimate the threat, in the way that the Soviet military machine was sometimes painted as standing ten feet tall. The quickest route to overestimation is to equate an adversary's intentions with his capability to target U.S. vulnerabilities. Terrorists and enemy states have had the capability to inflict far more damage on the American public than they have so far chosen to inflict; the fact of their restraint suggests something about the risk/benefit calculus they conduct. Manipulating their perception of risk should be a primary goal of U.S. strategy (about which, see more below). The other tendency is to underestimate the threat, in the way that Iraq's unconventional weapons were dismissed by most military planners prior to the Persian Gulf war. The quickest route to underestimation is to define the adversary as incapable of innovation and of exploiting less robust technologies than those available to the U.S. to gain operational and strategic leverage.

F. WHY BOTHER TO FURTHER REDUCE RISKS?

Surveying these multiple perspectives on possible future asymmetric conflict as well as the challenges and expense of reducing NBC vulnerabilities, decision-makers in the Office of the Secretary of Defense, the Joint Staff, the Services, and elsewhere sometimes argue that “we cannot eliminate all vulnerabilities and thus we’re going to have to run some risks, so let’s put less money into counterproliferation and more money against problems where we know we can make a difference.”³² Many see the RMA as promising a kind of escape from the challenges of adversary asymmetric strategies—as America’s own asymmetric counter to their attempts to gain leverage over existing conventional capabilities. The implication is clear: don’t work harder on the counterproliferation agenda and instead invest time, money, and energy working other problems more immediately at hand. What is wrong with this argument?

As a point of departure, let us recognize that the RMA will bring with it new vulnerabilities to asymmetric attack even if and as it eases some other vulnerabilities. A force highly dependent on electronics is vulnerable to attack by electromagnetic means. A force highly dependent on critical nodes is vulnerable to attack that cripples those nodes.

But whatever the RMA does or does not contribute to vulnerability reduction, there is a better answer to what’s wrong with the foregoing argument. We should recognize the potential that a major theater war involving the use of NBC weapons would inevitably change the world. Such a war could establish precedents associated with the usability or effectiveness of nuclear, chemical, and/or biological weapons that could lead to their much broader proliferation in post-war years. Such a war would also raise fundamental questions about the credibility of the United States as a security guarantor and about the kind of role it will play on the world stage in its moment of unparalleled power and influence—questions that if answered “the wrong way” could also lead to much broader proliferation.

One such “wrong way” would be to somehow demonstrate that the United States can be blackmailed and forced to back down with WMD threats; this would embolden other adversaries and could cause many of those who count on U.S. protection to conclude that they need independent means. Another “wrong way” would be an outcome that leads decision-makers in other countries to somehow conclude that America is a

³² Just such a view was expressed by senior OSD participants in a spring 2000 preliminary discussion of WMD issues in the next QDR process convened at IDA.

“rogue hegemon,” exploiting its moment of conventional and nuclear preeminence to intervene willy-nilly on the world stage under the guise of a human rights-based ideology.

Ensuring that such a war concludes in a fashion consistent with America’s long-term interests in a stable world and U.S. leadership is a top U.S. priority.³³ From this perspective, the strategic value of a viable effort to project and prevail against an NBC-armed regional aggressor is that it helps to ensure that such wars will not lead to outcomes that badly damage long-term U.S. interests. It enables the United States to “do the right thing”—to achieve the war aims it deems necessary, whether to restore the status quo ante or unseat and imprison an aggressor regime—even in the presence of weapons of mass destruction.³⁴

But there are some additional strategic values of note. One is the self assurance that comes in moments of crisis and decision from knowing that everything reasonable has been done to minimize the capability of a regional rogue to inflict high punishment on intervening U.S. forces or on civilians among coalition states. From this point of view, keeping pace with evolving CW threats and putting together a viable defense against BW threats offer value to a future National Security Council meeting in which the nation’s leaders will have to consider whether the risks will be substantially worse than those run in ejecting Iraq from Kuwait. Another way to state this proposition is that vulnerability reduction contributes to damage limitation in the event that deterrence fails—and this has political benefits.

Another strategic value is reassurance of U.S. allies and partners that the risks they run in signing up with a U.S. coalition to reverse an act of aggression are reasonable. If they are asked to bear a markedly disproportionate risk, then their interests will also have to be disproportionate. If a regional aggressor threatens their survival or governability with his NBC-backed threats or actions, those interests may warrant the running of very high risks. But if the aggression less directly touches their fundamental interests, then the capability of the United States to protect them from the aggressor’s attempts to coerce Washington by attacking its local partners will be essential to sustaining the effort to reverse aggression.³⁵

³³ These arguments are drawn from the previously referenced essay Roberts, “How Wars Must End.”

³⁴ See Utgoff, “The Coming Crisis: Nuclear Proliferation, U.S. Interests, and World Order—A Combined Perspective,” in Utgoff, ed., *The Coming Crisis*, pp. 279-301.

³⁵ Brad Roberts and Victor Utgoff, “Coalitions Against NBC-Armed Regional Adversaries: How Are They Formed, Maintained, and Led?” *Comparative Strategy*, Vol. 16, No. 3 (July-September 1997).

An additional strategic value relates to deterrence. U.S. interests would be best served by convincing the aggressor that any use of WMD, even only a threat to use them, is too risky. In other words, U.S. interests are best served if the aggressor is deterred from exploiting his WMD assets. In the absence of the counterproliferation capabilities now being pursued, the United States must rely heavily on nuclear weapons for this deterrence function. There are at least three reasons that Washington prefers not to continue such heavy reliance.

First, such reliance is contrary to the goal of reducing the role of nuclear weapons in the military and political postures of the major powers. The United States has a vital national interest in seeing the risks of Armageddon recede along with the Cold War, an interest that is put at risk when and if new demands on its nuclear forces at the theater level generate pressures in both Russia and China for more robust nuclear postures aimed at containing American influence around their peripheries.

Second, such reliance is contrary to formal legal undertakings by the United States in the context of negative security assurances offered under the Nuclear Non-Proliferation Treaty (NPT), assurances whereby Washington promises not to employ nuclear weapons against non-nuclear states except for those allied with an enemy nuclear power.³⁶ Formally expanding the role of nuclear weapons beyond those specified in these assurances risks further alienating Washington's NPT partners at a time of growing concern about the long-term viability of the non-proliferation regime.

Third, and most importantly from the military operator's point of view, such reliance may not be credible. The nuclear potential of the United States may be seen as unusable by the aggressor, who may simply believe that in the absence of a massively destructive attack on multiple civilian targets in the United States, of the kind that so much concerned planners in the Cold War, there is no realistic possibility that Washington might employ nuclear weapons. To come to terms with the connections between the perceptions of regional aggressors, the credibility of U.S. nuclear threats, and the benefits of counterproliferation, it is necessary to step through the following set of arguments.

It is useful to distinguish between types of adversaries on the basis of two criteria. One is the propensity to run risks—ranging from reticent to bold. From the discussion

³⁶ Michael Wheeler, *Positive and Negative Security Assurances*, Paper No. 9 (College Park, Md.: Center for International and Security Studies at Maryland, School of Public Affairs, University of Maryland at College Park, February 1994).

above, recall the major risk associated with asymmetric strategies employing weapons of mass destruction—the risk of miscalculation. Attacks aimed at generating fear in order to extract a political concession from Washington may instead generate anger and a decision in Washington to exploit the necessary military means to vanquish a hated enemy. A reticent aggressor may be willing to exploit NBC assets on a very limited basis for the purpose of generating concern and debate. A bold aggressor, willing to run much higher risks, may be willing to exploit those assets more extensively within and beyond the theater.

The other criterion is the adversary's NBC arsenal. An arsenal composed of small quantities of usable chemical and/or biological munitions would offer benefits to the user far less significant operationally than a large and sophisticated arsenal affording the user the capability to match agent type and delivery technique to specific target characteristics and to subject targets to sustained reattack. An arsenal composed also of nuclear warheads would expand the aggressor's capacity for escalation, especially if the aggressor possesses more than a small handful of deliverable weapons.

Bold aggressors with many and sophisticated NBC weapons present a very different challenge to U.S. defense planners than reticent aggressors with relatively few. Against the latter, it would seem logical that the emerging capabilities of U.S. forces should be sufficient to prevail on U.S. terms. Passive defenses would not be challenged by advanced generation agents or sustained reattack. Active defenses would not be challenged by salvo attacks and advanced penetration aids. Dominant battlespace awareness promised by the RMA would not be denied by sophisticated anti-electronic systems. Limited attacks with chemical or biological weapons might initially generate fear and revulsion, but if seen as not operationally decisive—as failing to cripple the U.S. effort to project and prevail—then their strategic effect ought also to be limited. If little coercive advantage can be won, then the United States and its partners would not be compelled to retreat from stated war aims. Ineffective attacks could cast the aggressor as an NBC-armed nuisance that must be put in his place if the neighborhood is to be returned to safety. Further attacks could serve only to enrage his victims. An analogue here is provided by the Persian Gulf war. Reportedly, Iraqi troops facing invading U.S. forces, expecting to be prisoners of war within hours of engaging those forces, were

reluctant to employ chemical weapons expecting that such use would only antagonize their captors.³⁷

Against bold aggressors with many NBC weapons, it seems unlikely that the capabilities now coming together would be similarly effective. Damage limitation and vulnerability reduction strategies cannot guarantee that the United States would be able to sustain military operations or provide full protection of high value targets. Especially if the aggressor has large numbers of delivery systems, ballistic and otherwise, active defenses could be overwhelmed, leading to sustained reattack of military forces in theater and the constant threat of attack on civilian targets within range of those delivery systems.

But this notional bold aggressor with many deliverable NBC weapons faces a dilemma: full utilization of his capacity to kill both soldiers and civilians risks crossing the threshold of killing “too many.” Whatever that may be in a specific scenario, “too many” is that point where the aggressor has miscalculated. Killing too many makes it impossible for the target of coercion—in this case, Washington—to compromise. Instead, it increases U.S. incentives to find a solution to the threat that is both definitive and permanent. Thus, from an adversary’s point of view, too aggressive a use of asymmetric tactics may result in escalation by the United States and/or a decision to seek regime removal as a condition of war termination.

Thus, in a major theater war, the aggressor’s successful coercion of the United States through means of NBC attacks is by no means guaranteed. In any major theater war, vital U.S. interests will be at risk because such wars by definition involve such vital interests, as they involve fundamental questions about the security of U.S. allies, Washington’s credibility as a security guarantor, and possibly also access to essential resources. In such wars, the United States is going to be willing to run high risks to protect those interests.

Moreover, the aggressor risks creating new vital interests for the United States if he utilizes his asymmetric tools to generate mass casualties. Such attacks would necessarily invoke questions of a U.S. nuclear reply. In so doing, the aggressor would have created interests for the United States that he may not have anticipated. If the United States uses nuclear weapons in reply to a regional aggressor’s use of WMD, questions will be asked about whether Washington simply relied on nuclear weapons because they

³⁷ From comments made by General Charles A. Horner, Defense Nuclear Agency conference on future arms control, Richmond, Virginia, 1993.

were convenient. Alternatively, if the United States backs down without using nuclear weapons, profound questions will be asked about America's power, reputation, and stature as a security guarantor. In the White House, the Capitol, and elsewhere, the urgency of finding the right answers to these questions would likely shape much of the thinking about how to ensure that this first-ever major theater war with an NBC dimension will teach the right lessons for the peace that follows. As argued above, the wrong lessons could lead to a sudden burst of the proliferation of NBC weapons and conceivably also the political eclipse of American power.

In sum, as a high-risk major theater war unfolds, U.S. interests in its long-term leadership role and in nonproliferation may far outweigh the interests of the aggressor that set the conflict in motion. An aggressor's bold use of his most destructive weapons in the service of asymmetric strategies could well invert the asymmetry of interest that defined the conflict at the start.

So why should the United States continue to develop counterproliferation capabilities even in the absence of consensus about the nature of the asymmetric threat and in the absence of the use of NBC weapons by U.S. adversaries in the decade since the Persian Gulf war wake-up call? The answer has to do with a long-term view of U.S. interests and with the strategic benefits offered by the gains promised by the current counterproliferation agenda. In addition to the benefits of self-assurance, reassurance of allies, and damage limitation if deterrence fails, there are also high-value benefits associated with the deterrence equation. Vulnerability reduction helps to bring into being a deterrence posture better suited than the present one to the requirements of the post-Cold War era, one based on damage limitation and conventional rather than nuclear replies to rogue aggression leading to major theater war. The alternative to further damage limitation is continued heavy reliance on nuclear deterrence, especially of chemical and biological attacks, which is contrary to multiple U.S. interests—except where it is absolutely necessary. Such reliance is not necessary for dealing with the reticent aggressor with few weapons, who is unlikely to believe that his asymmetric approaches would ever generate the scale of casualties that would warrant a nuclear reply by Washington.³⁸ A bold aggressor with many weapons will have to contend with the possibility that large-scale casualties would generate a nuclear reply by Washington; thus nuclear weapons may be seen as a credible deterrent of those high-end attacks. The

³⁸ In a private communication, former UNSCOM chairman Rolf Ekeus conveyed the view of Saddam Hussein that there was nothing Iraq might do in the Persian Gulf war that would possibly motivate a decision in Washington to kill 8 million people in Baghdad by nuclear or other means.

strategic value of damage limitation and vulnerability reduction efforts then is to help ensure that nuclear threats are credible where they are also necessary—to deter large-scale exploitation of NBC weapons to gain strategic advantage—and are not necessary where they are not clearly credible—for less damaging uses of NBC. For these purposes, conventional forces may not be deemed an adequate deterrent if they are insufficiently promising in their ability to inflict new levels of punishment on the aggressor and to do so quickly and decisively.

What about smaller-scale contingencies? In such contingencies, this calculus of interest and restraint must be different—U.S. interests may well not be vital. Washington’s dilemma is that the adversary may be able to utilize asymmetric approaches at the tactical and campaign levels—to defeat forces, to prolong war, to make the public fearful—in order to generate strategic level responses—weakened political support, both locally and in Washington. CBW attacks at the tactical and campaign levels (i.e., not resorting to large-scale attacks on civilians) are unlikely to invite questions of a U.S. nuclear reply or the interests that go with them.

In such contingencies, a new asymmetry becomes prominent—between the willingness of the two sides to target civilians. In a smaller-scale contingency, the United States is highly unlikely to attack civilian targets—indeed, its presence is by definition one aimed at keeping the peace and protecting civilians. But the U.S. adversary may determine that limited attacks on civilians can serve his interests in generating opposition to the U.S. presence, not least by demonstrating the inability of the United States to protect everyone at all times. An especially alarming variant of this scenario would be one in which well-protected U.S. forces are attacked in ways that cause few U.S. casualties but many collateral ones (e.g., with anthrax, given the immunization of U.S. forces). The strategic effect of such attacks might be to stoke local resistance to continued U.S. engagement—but without generating a Pearl-Harbor effect in Washington.

G. WINNING WARS OF COERCION

The growing awareness within the U.S. defense community of the range of tools available to potential U.S. adversaries in asymmetric conflicts has reinforced the impression that such conflicts will play out primarily at the military level, as each side brings what assets it can to bear on the vulnerabilities of the opponent. This dimension should not be overemphasized to the point of neglecting the political one. Asymmetric wars are wars of coercion and compellence—in Clausewitzian terms, they are, like all wars, a continuation of politics by other means. Such wars entail the aggressor’s efforts to

induce certain strategic behaviors in Washington through the generation of fear. And they entail Washington's efforts to achieve its war aims while inducing restraint by the aggressor.

In trying to come to terms with this mutual interaction of attempts to coerce, it is useful to revisit the strengths and weaknesses of the two sides in asymmetric conflict as the adversary might perceive them as elaborated at the beginning of this paper. It just may be that the aggressor's strengths have been overstated in the opening thesis. He may have a propensity to run risks, even high risks; but there are likely to be limits to those propensities, especially if, in running risks, regime survival is put at stake. He may have a reputation for ruthlessness, but he must also count on the forbearance of his neighbors and their reluctance to act to unseat him; too much proven ruthlessness may lead them to conclude that his continued presence cannot be tolerated and must be un-done, even at high risk. He may be willing to use weapons of mass destruction; but he must reckon with the superior capability of the United States to escalate with both conventional and nuclear means—indeed, the essence of the aggressor's asymmetric strategy is to achieve his war aims *without* prompting the U.S. to do so.

And it may be that the U.S. "weaknesses," as the aggressor might perceive them, are not so much weaknesses as pitfalls for the aggressor. Americans are averse to casualties, because they would not squander blood and treasure on the dreams of corrupt monarchs. But throughout their history Americans have shown a willingness to die for important causes, especially where vital national interests are at stake. And making Americans fearful by killing them is risky business. An aggressor who defines America's strategic personality based on U.S. military withdrawals from Lebanon and Somalia following the loss of a few lives has not reckoned with the America of Pearl Harbor. It may in fact be particularly difficult to "shock" America into acquiescence by making it fearful, as we are a people that has repeatedly found our values put at risk by the aggressions of others. The unpredicted response of the United States to the communist invasion of South Korea in 1950 is suggestive of this circumstance. We are also a country for which reputation and credibility are important, making it nearly impossible for a U.S. president to back down in the face of blackmail. Here, the democratic process surrounding the use of force plays to the disadvantage, not the advantage, of the aggressor. As Herman Kahn has argued, the United States has a particularly moral view of the world and, though slow to rouse, is willing to use "extravagant force" to expunge a

hated enemy.³⁹ This righteousness implies that Washington would feel compelled to punish the morally deplorable acts of an NBC-armed regional aggressor so that the right lessons are learned following the confrontation.

Another way to approach this problem is through the vantage point of strategic personalities.⁴⁰ In asymmetric conflicts, the adversary's calculus of risk and benefit as he attempts to coerce Washington will be driven significantly by his view of America's strategic personality. This fact is under-appreciated in the U.S. strategic community, which instead spends considerable time and effort trying to come to terms with the strategic personalities of the leaders of special concern. But the aggressor's view of America's strategic personality will be central to his choices about whether or how to escalate. Dispelling misconceptions about that personality would appear to be key to shaping future conflict dynamics in ways that serve U.S. interests.

An implication follows for U.S. concepts of information warfare operations (IO). IO promises to have a revolutionary effect on asymmetric warfare. The information age is empowering Blue to achieve the RMA, but it is also empowering Red to employ asymmetric techniques. In the game of shaping public perceptions and political will, it is U.S. adversaries who appear to be thinking and acting creatively when it comes to the conduct of campaign-style IO aimed at the body politic. The United States has tended to focus on IO as a problem at the tactical or operational levels, when its strategic effect on the public will may be the most likely focus of potential U.S. adversaries.

H. CONCLUSIONS

Even with two decades of work, spanning the period from the Persian Gulf war to 2010, the United States will not be able to posture its forces so as to be able to completely deprive potential adversaries of the means to wage asymmetric conflict. Our vulnerabilities are too numerous, and so too the means to attack them. Indeed, it is wrong to think of asymmetric conflict as a short-term aberration following the "normalcy" of the symmetry imposed by Cold War-vintage mutual assured destruction. Asymmetric warfare is as old as war itself, and U.S. adversaries will concern themselves with asymmetric counters to U.S. preeminence so long as the United States plays an active role on the world stage.

³⁹ Herman Kahn, *On Escalation* (New York: Praeger, 1965), p. 17.

⁴⁰ For further discussion on this topic, see the work of Caroline Ziemke performed for DTRA, *Strategic Personalities and the Effectiveness of Nuclear Deterrence*, IDA Document D-2537 (Alexandria, Va.: Institute for Defense Analyses, 2000).

Nevertheless, over the last decade, significant progress has been made in coming to terms with asymmetric challenges. Conceptually, a good deal of headway has been made in defining the key parameters of asymmetric conflict, including asymmetries of capability and interest. There is also growing recognition of the multifaceted nature of the asymmetric challenge, including dimensions well beyond the NBC domain.

But some important conceptual challenges remain. There is little evident analysis of whether or how adversaries might mix weapons of mass destruction, homeland attack, and conventional in-theater means to prosecute asymmetric strategies against the United States; the four camps on this question, as outlined above, rarely interact and share few assumptions or terms of reference. Furthermore, there seems to be little appreciation that asymmetric strategies are about coercion, not simply about inflicting casualties. This is a high-risk endeavor for the adversary, rich in opportunities for miscalculation.

More important, there appears to be little attention paid to the significant differences between major theater wars and smaller-scale contingencies. In the former, an adversary's dilemma is that he cannot raise stakes for the United States without running substantial new risks. A high-stakes game also creates important, perhaps unanticipated interests for the United States. Some will derive from any question that might be raised about a possible use of nuclear weapons by the United States. Others will derive from Washington's concern with the lessons of any such war for the peace that follows, lessons about the utility of weapons of mass destruction for purposes of aggression and about the credibility of America as a security guarantor. Moreover, whatever the issue at stake that gave rise to the conflict in the first place, the adversary must understand that there is such a thing as killing too many Americans and too many allies.

In the operational realm, there is important progress to note. Improved counterproliferation, missile defense, and RMA capabilities promise to pay important dividends in reducing the vulnerability of U.S. forces to attack by asymmetric techniques. Between 1991 and 2010 the United States should have made it possible to reduce to nuisance value the risks posed by the modest asymmetric assets of an adversary unwilling to run large risks associated with Washington's reaction to sudden, great casualties.

But a bolder adversary with robust and sophisticated asymmetric tools presents a qualitatively different challenge. Moreover, a bold adversary may employ not just WMD techniques but also homeland attack and advanced conventional means in theater to blunt U.S. advantages, target public will, and attempt to break a U.S.-led coalition.

Accordingly, vulnerabilities will remain in 2010 that an adversary may attempt to exploit. Continued efforts to reduce those vulnerabilities can be expected to offer a number of important benefits, including self-assurance of decision-makers in Washington, reassurance of U.S. allies and coalition partners, damage limitation in the event deterrence fails, and deterrence, in a posture where the means fit the ends (i.e., where nuclear means are relied on only where they offer some promise of credibility).

I. IMPLICATIONS

This analysis points to the following implications for the Department of Defense's effort to come to terms with the asymmetric challenge over this two-decade timeframe.

1. The counterproliferation initiative should be carried forward. The emphasis on reducing the vulnerability of in-theater U.S. military forces, and those of its coalition partners, to attack by chemical and biological weapons and missiles promises to pay very valuable dividends in the decade ahead. Especially important is the effort to more effectively come to terms with the biological threat. The upcoming QDR should reinforce this objective.
2. This counterproliferation effort should be pursued as part of an integrated effort to reduce the vulnerability of military and civilian targets to the asymmetric techniques explored here, including not just use of WMD in theater but also attack on the U.S. homeland, and other forms.
3. Specific metrics should be developed enabling assessment of whether the emerging suite of counterproliferation capabilities will be sufficient to meet wartime requirements associated with halting an act of aggression, reversing it, and terminating it on terms deemed necessary by Washington. No such metrics or tools presently exist to determine whether progress over the last decade will translate into success in the future one.
4. Closer study should be undertaken of the work-around strategies being pursued by potential U.S. adversaries as their response to the operational improvements to U.S. forces being brought by the counterproliferation initiative.
5. Threat and risk reduction strategies of a political and economic kind should continue to be pursued even if their immediate impact is weak or ambiguous. Over the long term they can play a significant role in shaping the threat environment in ways conducive to U.S. interests.
6. JV2020 should be pursued so as to purposefully exploit the benefits that might be available in terms of reducing the vulnerability of U.S. forces to attack by weapons of mass destruction of all kinds. But the special vulnerabilities of RMA-based forces that might be exploited by asymmetric adversaries deserve scrutiny in their own right.
7. The U.S. analytical community, including the intelligence community component, should find opportunities to debate and develop an integrated picture of the asymmetric challenge. The current disparity of views has helped to expand

thinking within the defense community but has not helped to focus resource allocation on a comprehensive strategy to deal with the asymmetric threat. Red-Teaming techniques should be exploited toward this end.

8. The impact of improving counterproliferation capabilities on the U.S. deterrent posture, both operational and declaratory, merits further study. This effort should focus on (a) reaping the benefits of improving capabilities for their deterrent effect and (b) understanding where, why, and how nuclear weapons will remain important and credible in the overall U.S. deterrent posture. A lack of consensus on these points impairs the Department's ability to generate and sustained focus counterproliferation investments.
9. The focus on information operations strategies at the tactical and operational levels must be supplemented with a better understanding of information operations at the strategic level. Wars of coercion are about shaping public and political will. The U.S. defense planning community may be called upon in time of crisis to assist the national command authority to inform public debate in unexpected ways; these should be anticipated and studied.